Remote Screening for Diabetic Retinopathy Using Stereo Non-Mydriatic Digital Retinal Photography

Principal Investigator: COL Robert Vigersky

Project Officer: CPT Sean Kennedy

Background

- Diabetes Quality Improvement Program (DQIP) criteria for Diabetes Mellitus (DM) were not being adequately met in the Walter Reed Health Care System (WRHCS)
- Over 6,000 patients in the WRHCS have DM
- Diabetes with the poorest blood glucose controls are being targeted for early intervention
- These patients are being contacted and scheduled for evaluation and comprehensive care including non-mydriatic retinal photography

DQIP Criteria

- % of patients receiving 1 or more HbA1c's/year
- % patients with HbA1c over 9.5%
- % patients assessed for nephropathy
- % patients receiving a lipid profile every 2 years
- % patients with LDL < 130 mg%
- % patients receiving a dilated eye exam

Method

- The provider conducts a general medical examination attempting to fulfill the DQIP criteria
- *Phase I* – Efficacy validation of JVN within Walter Reed Army Medical Center (WRAMC)
- *Phase II* - Operational testing within the National Capital Area
  – deployment of retinal imaging cameras to Fort Belvoir and Fort Meade
- *Subsequent phases* - Deployment to every medical treatment facility with a sufficient diabetic patient population
- Images recorded at outlying facilities will be interpreted by retinal specialists located at WRAMC

Results

1) The following data reflect the effect of intensive disease management by Diabetes Institute nurse practitioners on this population:

Measurement	1999	2001
	(n=6059)	(n=603)
% HbA1c's Done	62.3%	97.0%
% LDL's Done	68.8%	93.4%
% U-Protein Done	22.3%	60.4%

Discussion

- Improves diabetes patient risk-stratification
- Expands diabetes specialty care geographically
- Enhances diagnostic capability of diabetes mellitus
- Provides a database and digital medical record
- Supports the NARMC strategic plan to track outcomes management
- Provides screening and triaging to patients who would otherwise not have ready access to ophthalmology appointments